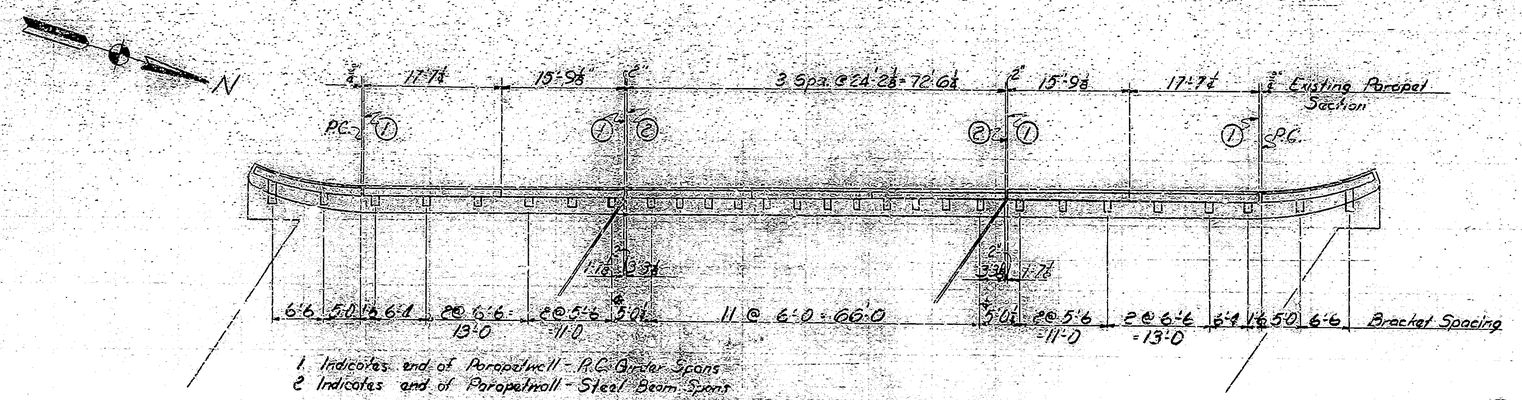


1. Indicates end of Parapetwall - R.C. Girder Spans
2. Indicates end of Parapetwall - Steel Beam Spans

BRACKET SPACING
WEST RAILING ONLY

Type "X" Barrier Railing to be installed along outside coping of South Bound Roadway ONLY.

NOTE:
For details of Type "X" Barrier Railing and precast or cast in place concrete brackets, see Drawing R15.

The existing aluminum railing on west coping shall be removed. Existing railing post anchor bolts extending from parapetwall shall remain in place.

PAY ITEMS
REMOVAL OF PRESENT RAILING = 139 Lin. Ft.
BARRIER RAILING, TYPE "X" = 166 Lin. Ft.

⊕ Indicates Expansion Panel. Splice opening required in Expansion Panel = 2½". For Details of Expansion Panels, See Drw'g R15.

TYPE "X" BARRIER RAILING PLAN

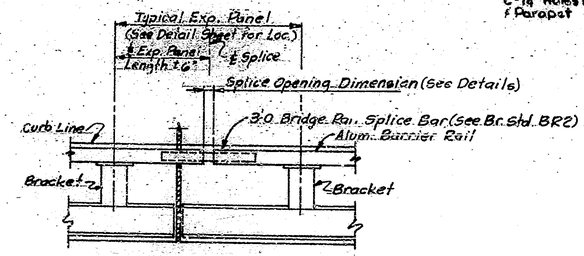
INDIANA STATE HIGHWAY COMMISSION
ON I-65 LOG MILE 0.35 OVER COURT STREET

SCALE:-
DATE:- JULY 28, 1976
Robert W. Bettge
ASSISTANT ENGINEER OF BRIDGE DESIGN

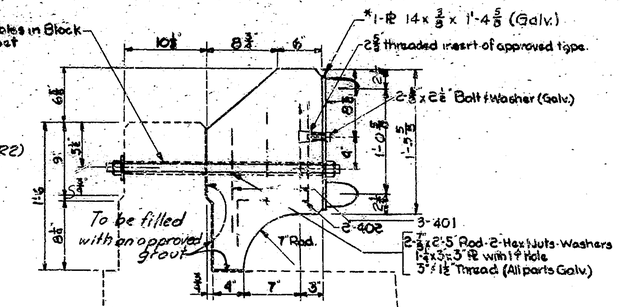
DRAWING R1 OF 16 SHEET:- 1 OF 19
PROJECT:- I-65-1(92)c
CONTRACT NO.
BRIDGE FILE:- I-65-0-488DA

ROBERT W. BETTGE
No. 6403
STATE OF INDIANA
PROFESSIONAL ENGINEER

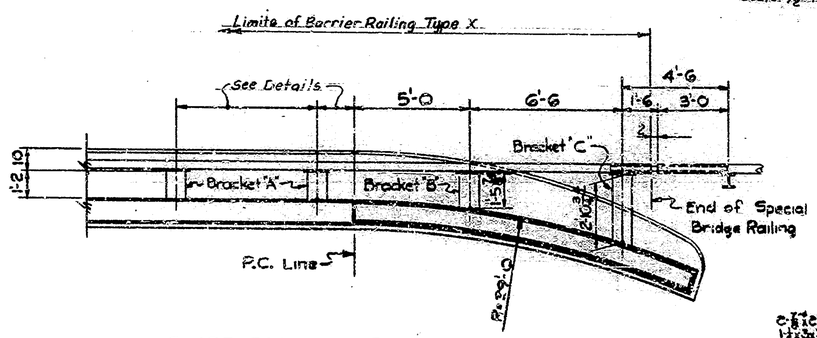
DESIGNED ____ C'K'D ____
DRAWN BTW 1-9-76 C'K'D JJW 1-20-76
TRACED ____ C'K'D ____



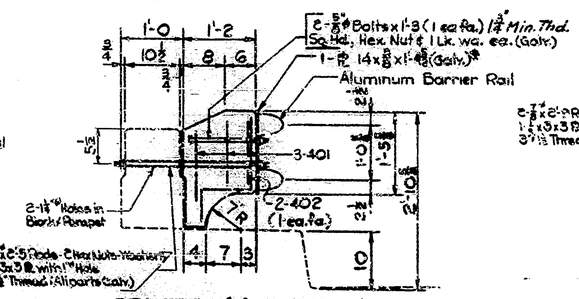
EXPANSION PANEL DETAILS
Scale: ½"=1'-0



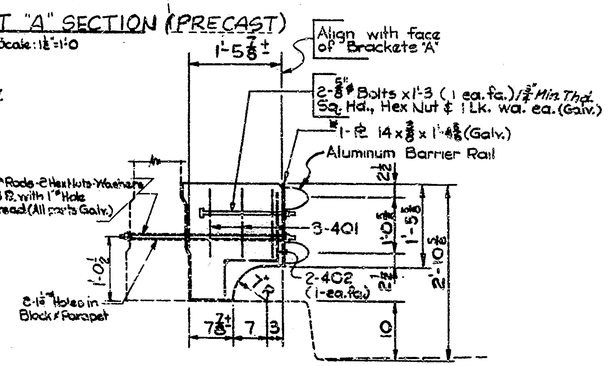
BRACKET "A" SECTION (PRECAST)
Scale: 1½"=1'-0



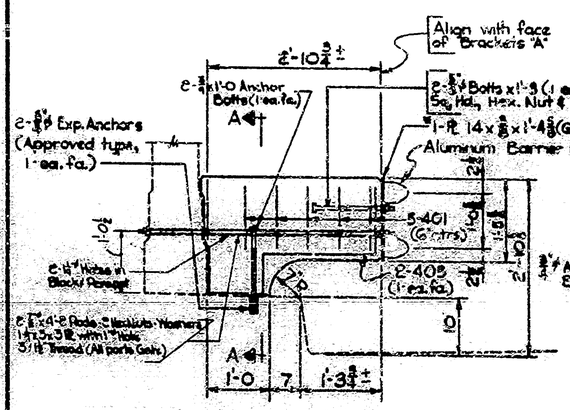
GUARD RAIL PLAN @ WING
Scale: ⅜"=1'-0



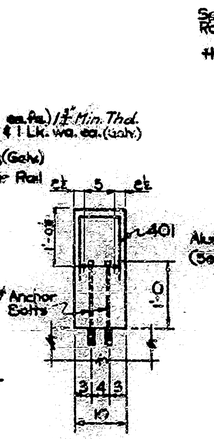
BRACKET "A" SECTION (CAST IN PLACE)
Scale: 1"=1'-0



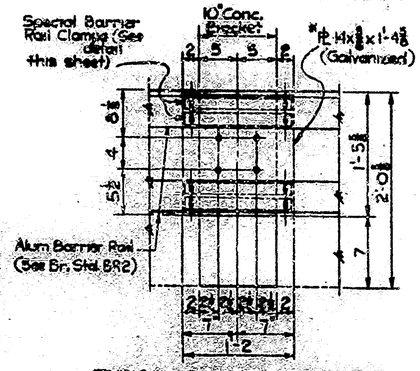
BRACKET "B" SECTION (CAST IN PLACE)
Scale: 1"=1'-0



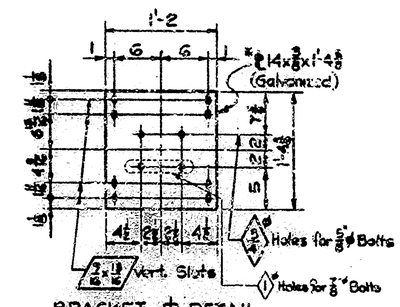
BRACKET "C" SECTION (CAST IN PLACE)
Scale: 1"=1'-0



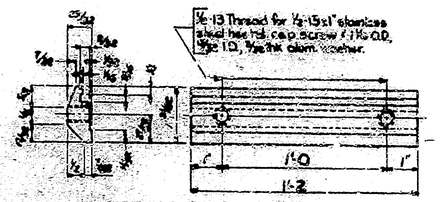
SECTION A-A
Scale: 1"=1'-0



TYPICAL BRACKET ELEVATION
Scale: 1½"=1'-0



BRACKET PL DETAIL
Scale: 1½"=1'-0



SPECIAL BARRIER RAIL CLAMP BAR
Not to Scale

NOTES

¾" ϕ Expansion Anchors shall be of a type approved by the Engineer. They shall be a minimum of 3 inches in length and capable of a pull-out test of 12,000 pounds.

Concrete in Brackets to be Class "A".

Chamfer exposed concrete edges ¾ inch.

See Br. Stds. BR1 & BR2 for Guard Rail notes and details.

Alternate Precast Brackets may be used. If the Precast Bracket is used, details of the proposed Bracket shall be submitted to the Engineer for approval.

*As an alternate, an aluminum plate may be used. If used, it shall be aluminum alloy 6061-T6 conforming to ASTM B-209. Plates shall be free of sharp edges and irregularities.

Standard drawings reqd. : BR1, BR2, C1.

The alternate aluminum bracket detailed on Drwg R16 may be substituted for the precast or cast in place Concrete Bracket "A" as detailed on this sheet.

Clean and surface seal the roadway face and top of curbs, walks, parapet walls, concrete railings and all exposed surfaces of the new concrete brackets.

TYPE "X" BARRIER RAILING DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- As Noted DATE:- JULY 28, 1976

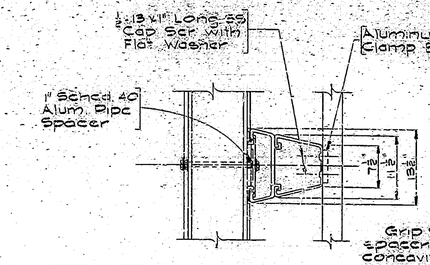
RECOMMENDED FOR APPROVAL:- Robert W. Rutzke
DIRECTOR OF BRIDGE DESIGN

DRAWING:- R16 OF 16 SHEET:- 15 OF 19
PROJECT:- J 65-1(92)0
CONTRACT NO.
BRIDGE FILE:- 1-65-0-4880-A

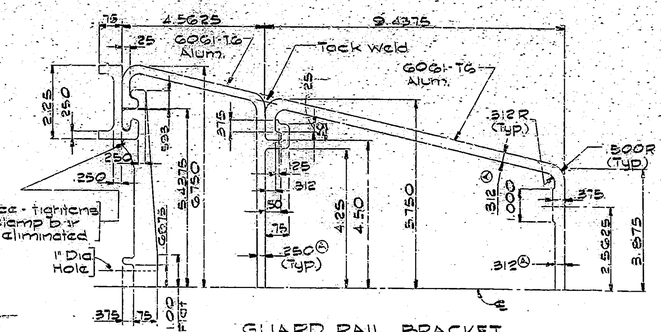
ROBERT W. RUTZKE No. 6403 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGNED RDS 9-17-74 CK'D WRG 9-17-74
DRAWN CK'D
TRACED CK'D

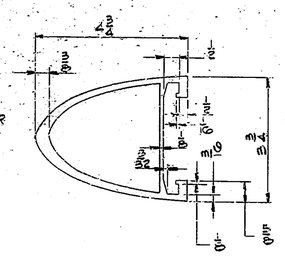
Rev. 1-2-79 Revised Length Rev. 6-14-74 Anchor Plate Detail



PLAN
Scale: 1" = 1'-0



GUARD RAIL BRACKET
Scale: 6" = 1'-0

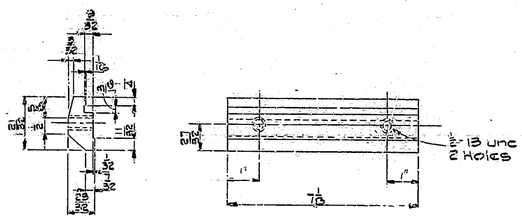


RAIL SECTION
No Scale

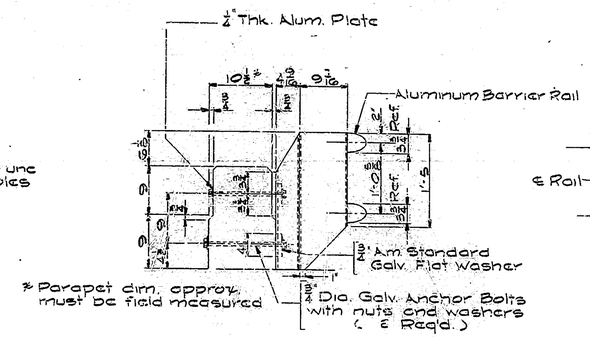
Clamp bar is extruded with a 3/8" concavity (.375 at mid. point) to be eliminated by assembly pull down on anchor.

NOTES

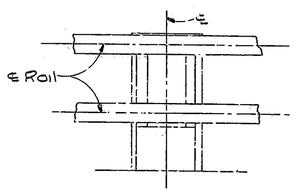
Mat'l. except as noted 6061-T6 Alum.
Bracket may be used as an alternate to precast or cast in place concrete bracket.
See Bridge Standards BR1 and BR2 for Guard Rail notes and details.
Standard Drawings required BR1 and BR2.



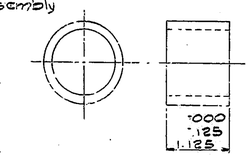
CLAMP BAR
Scale 6" = 1'-0



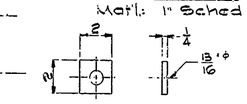
SIDE
Scale: 1" = 1'-0



FRONT
Scale: 1" = 1'-0



ANCHOR SPACER TUBE
Mat'l.: 1" Sched 40 Pipe



ALUM. PLATE
6061-T6

GUARD RAIL BRACKET DETAILS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED DATE:- JULY 28, 1976

Robert W. Ritter
ASSISTANT CHIEF ENGINEER OF BRIDGES

DRAWING: R16 OF 16 SHEET: 16 OF 19
PROJECT: I-65-1(92)0
CONTRACT NO.
BRIDGE FILE: I-65-0-41880 A

DESIGNED ____ C'K'D ____
DRAWN MS 5-73 C'K'D ____
TRACED ____ C'K'D ____

END STR
I-65-0-41880A